

DIAGRAMMES

CLAUDE HENRY
CHRISTIAN LAIR
Atlas des Figures

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**SUR
CERTAINES SOUS-CATEGORIES NON PLEINES
DES
CATEGORIES DE MODELES**

*Fascicule 2 :
Atlas des Figures*

Claude Henry

(maxchen@free.fr)

et

Christian Lair

(lairchrist@aol.com)

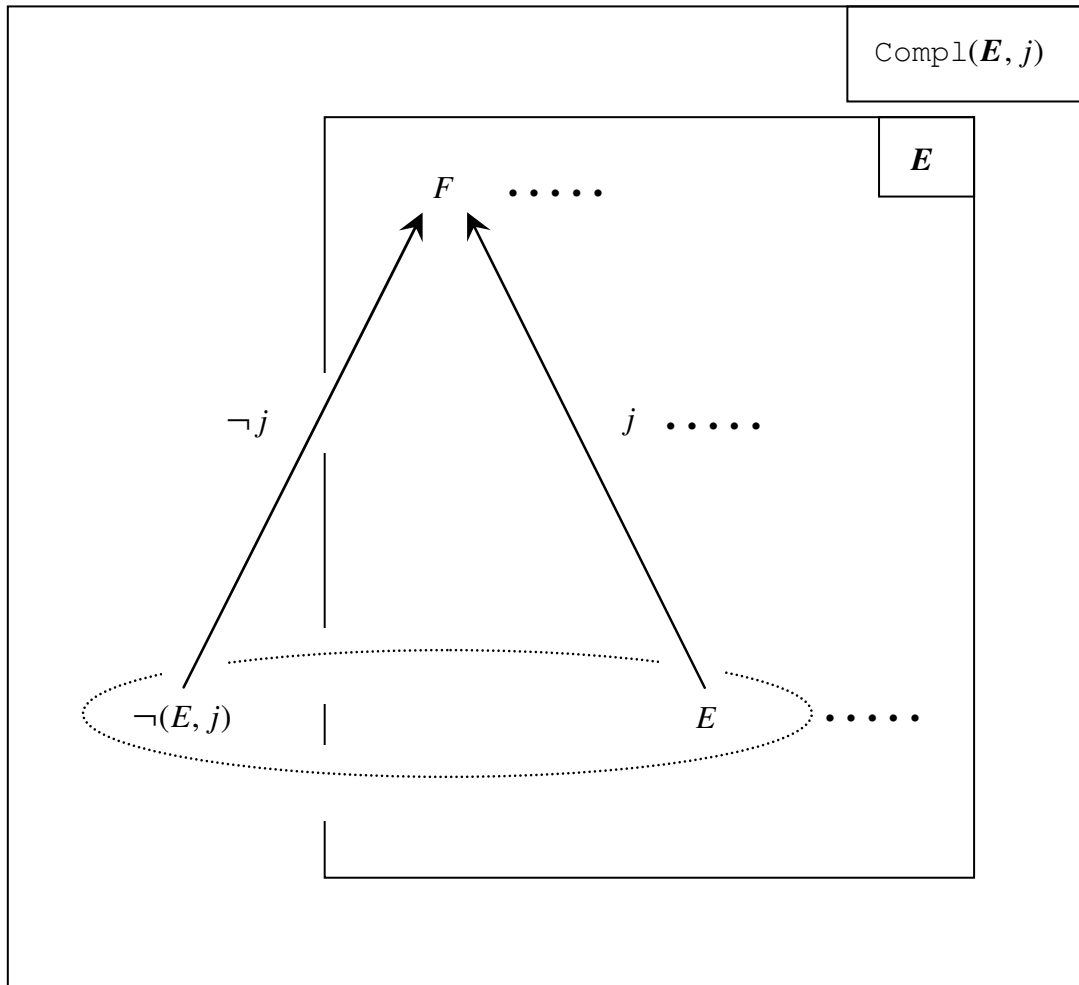
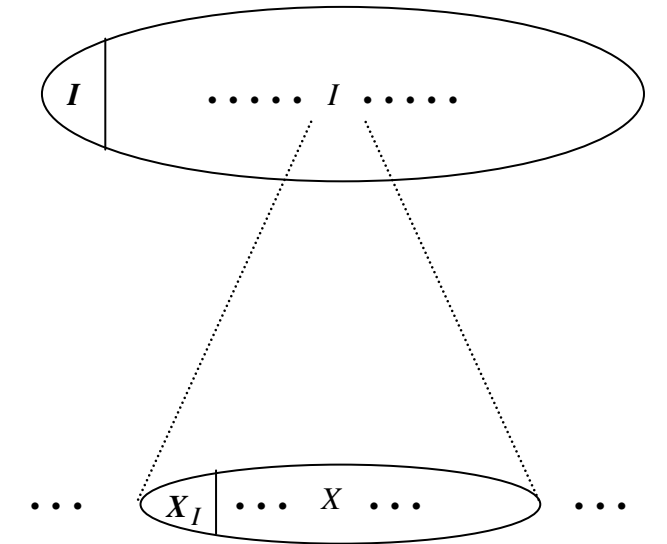


Figure 1



..... R_I



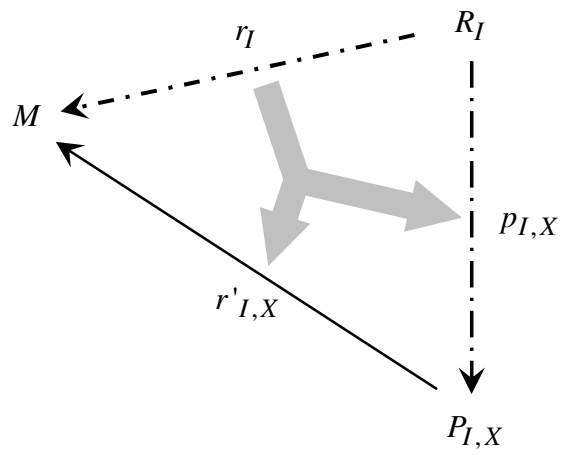
$P_{I,X}$

..... $P_{I,X}$

---> $\in \text{Fl}(M)$

Figure 2

M, M'



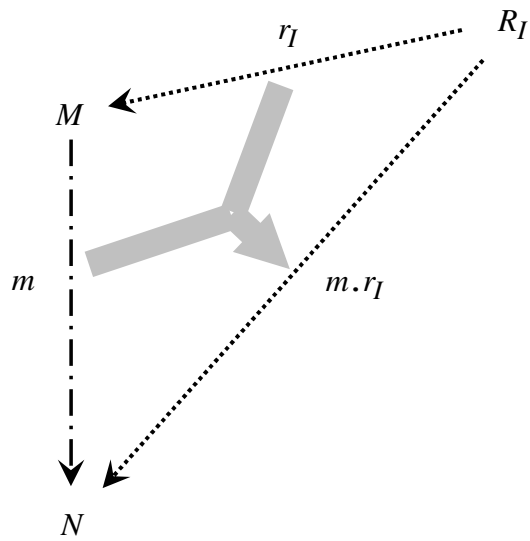
$\dashrightarrow \in \text{Fl}(M)$
 $\longrightarrow \in \text{Fl}(M')$

Résol. 1

$\forall M \in \text{Ob}(M') = \text{Ob}(M) \quad \forall I \in I \quad \forall r_I : R_I \rightarrow M \in \text{Fl}(M)$
 $\exists X \in X_I \quad \exists r'_{I,X} : P_{I,X} \rightarrow M \in \text{Fl}(M')$
 $r'_{I,X} \cdot p_{I,X} = r_I$

Figure 3

M, M'



$\dashrightarrow \in \text{Fl}(M)$

$\cdots\rightarrow \notin \text{Fl}(M')$

Résol. 2

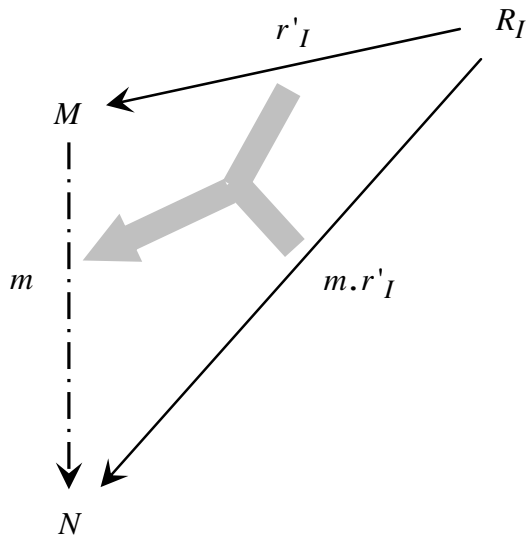
$$\forall M \in \text{Ob}(\mathbf{M}) \quad \forall N \in \text{Ob}(\mathbf{M}) \quad \forall m : M \rightarrow N \in \text{Fl}(\mathbf{M})$$

$$\forall I \in \mathbf{I} \quad \forall r_I : R_I \rightarrow M \in \text{Fl}(\mathbf{M})$$

$$r_I : R_I \rightarrow M \notin \text{Fl}(\mathbf{M}') \Rightarrow m.r_I \notin \text{Fl}(\mathbf{M}')$$

Figure 4

M, M'



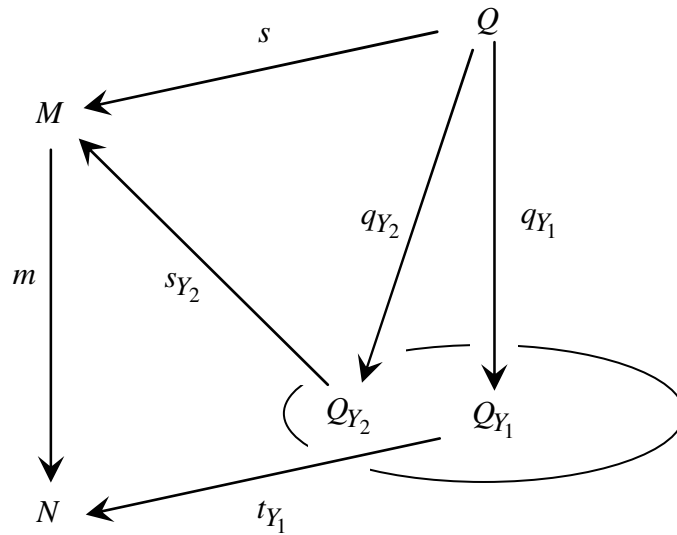
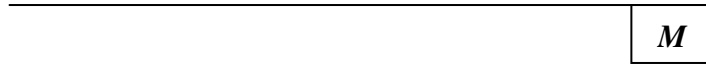
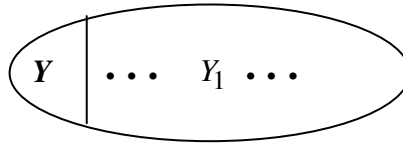
$\text{---} \rightarrow \in \text{Fl}(M)$

$\text{---} \rightarrow \in \text{Fl}(M')$

Résol. 3

$$\begin{aligned} & \forall M \in \text{Ob}(M) \quad \forall N \in \text{Ob}(M) \quad \forall m : M \rightarrow N \in \text{Fl}(M) \\ & [\forall I \in I \quad \forall r'_I : R_I \rightarrow M \in \text{Fl}(M') \quad m.r'_I : R_I \rightarrow N \in \text{Fl}(M')] \\ & \quad \quad \quad \Rightarrow \\ & [m : M \rightarrow N \in \text{Fl}(M')] \end{aligned}$$

Figure 5



Equil. 1

$$\forall M \in \text{Ob}(\mathbf{M}) \quad \forall N \in \text{Ob}(\mathbf{M}) \quad \forall m : M \rightarrow N \in \text{Fl}(\mathbf{M})$$

$$\forall q = (q_Y : Q \rightarrow Q_Y \in \text{Fl}(\mathbf{M})) \in \mathbf{q} \quad \forall s : Q \rightarrow M \in \text{Fl}(\mathbf{M})$$

$$(\exists Y_1 \in Y \quad \exists t_{Y_1} : Q_{Y_1} \rightarrow N \in \text{Fl}(\mathbf{M}) \quad m \cdot s = t_{Y_1} \cdot q_{Y_1})$$

$$\Rightarrow$$

$$(\exists Y_2 \in Y \quad \exists s_{Y_2} : Q_{Y_2} \rightarrow M \in \text{Fl}(\mathbf{M}) \quad s = s_{Y_2} \cdot q_{Y_2})$$

Figure 6

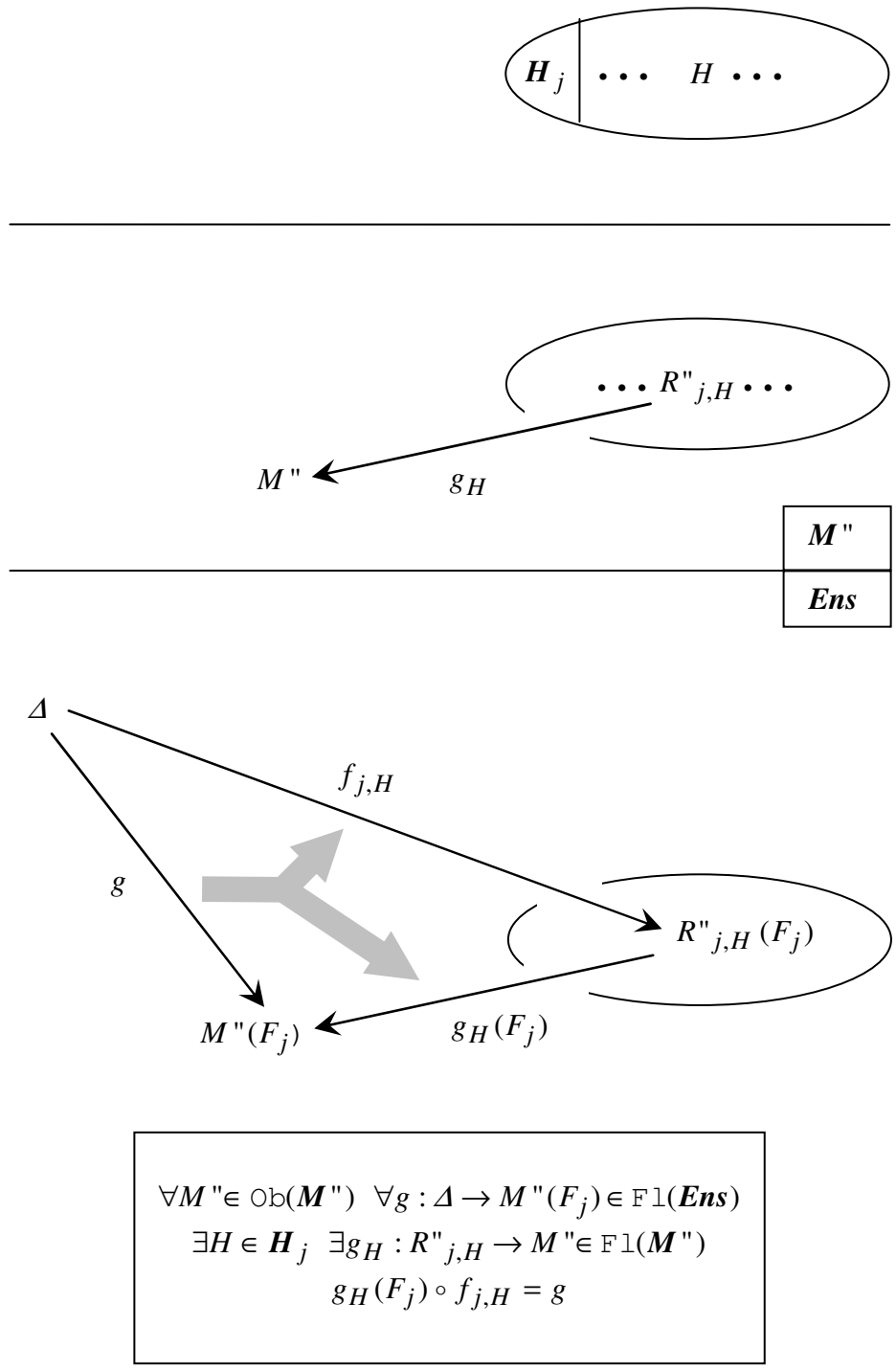


Figure 7

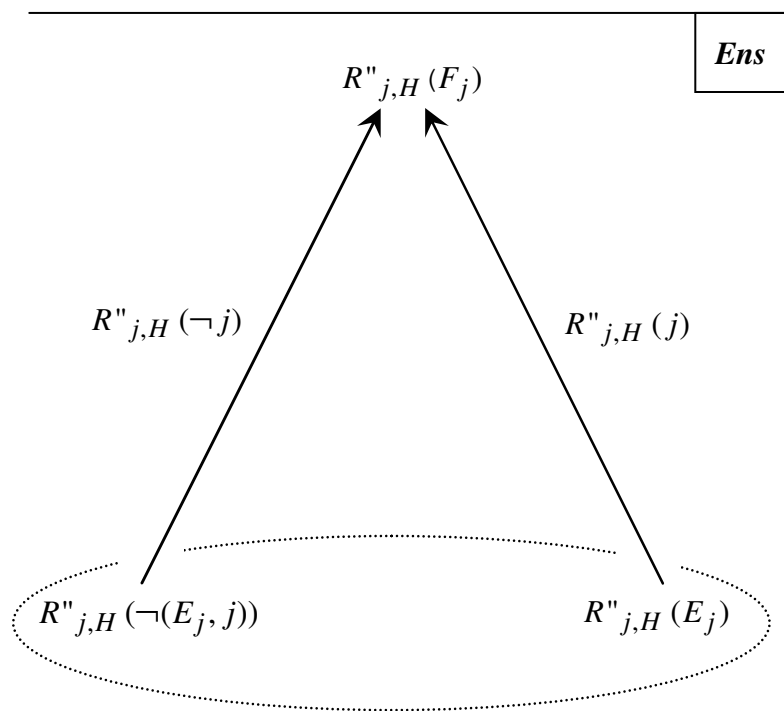


Figure 8

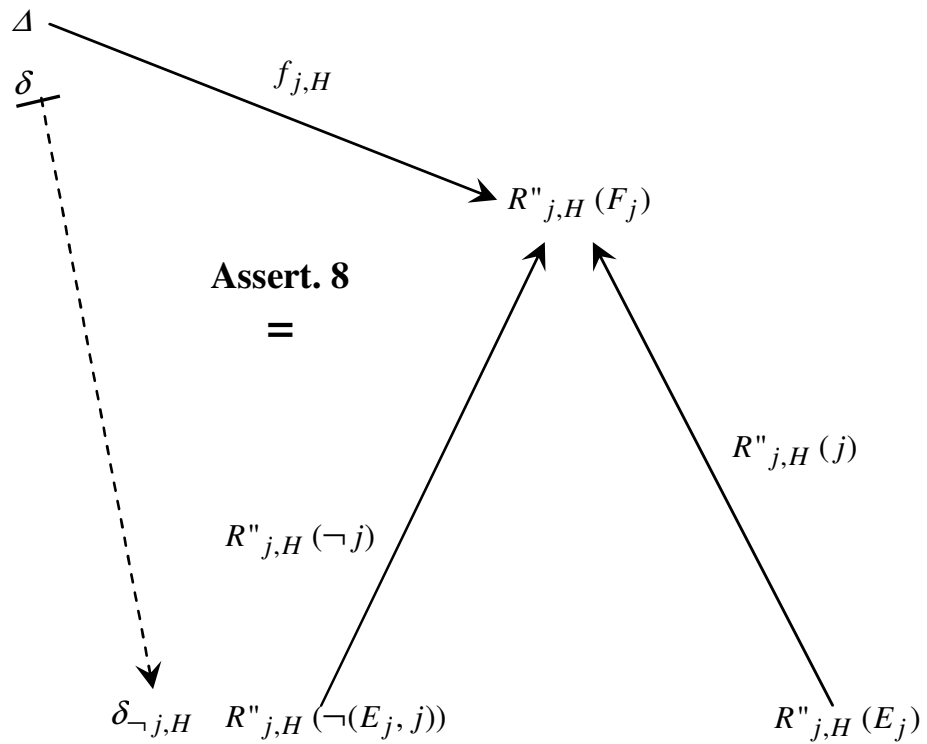
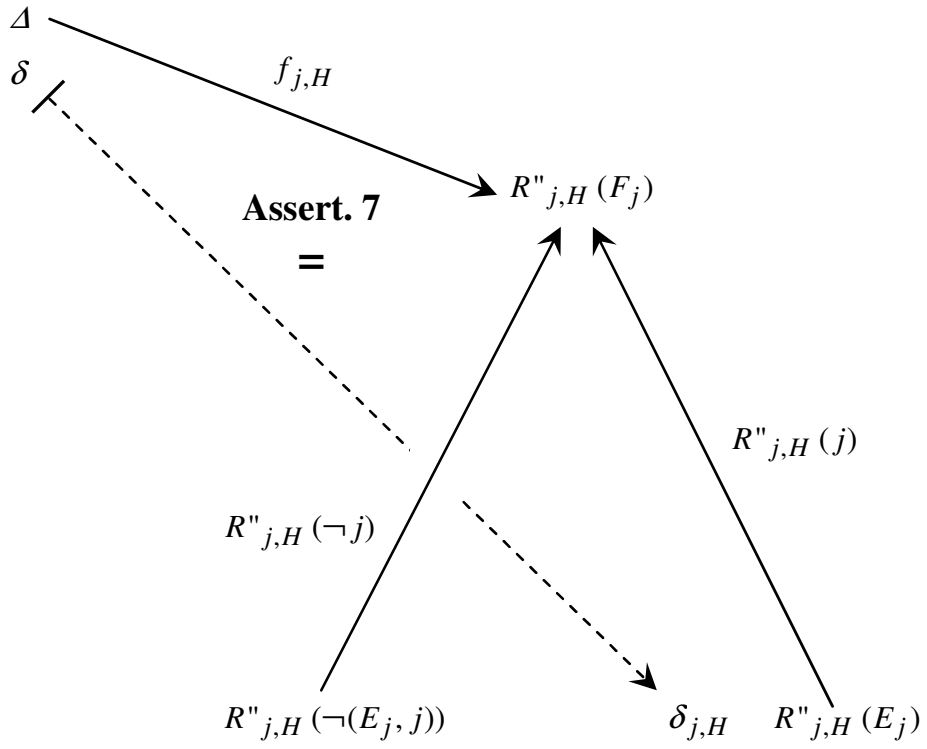
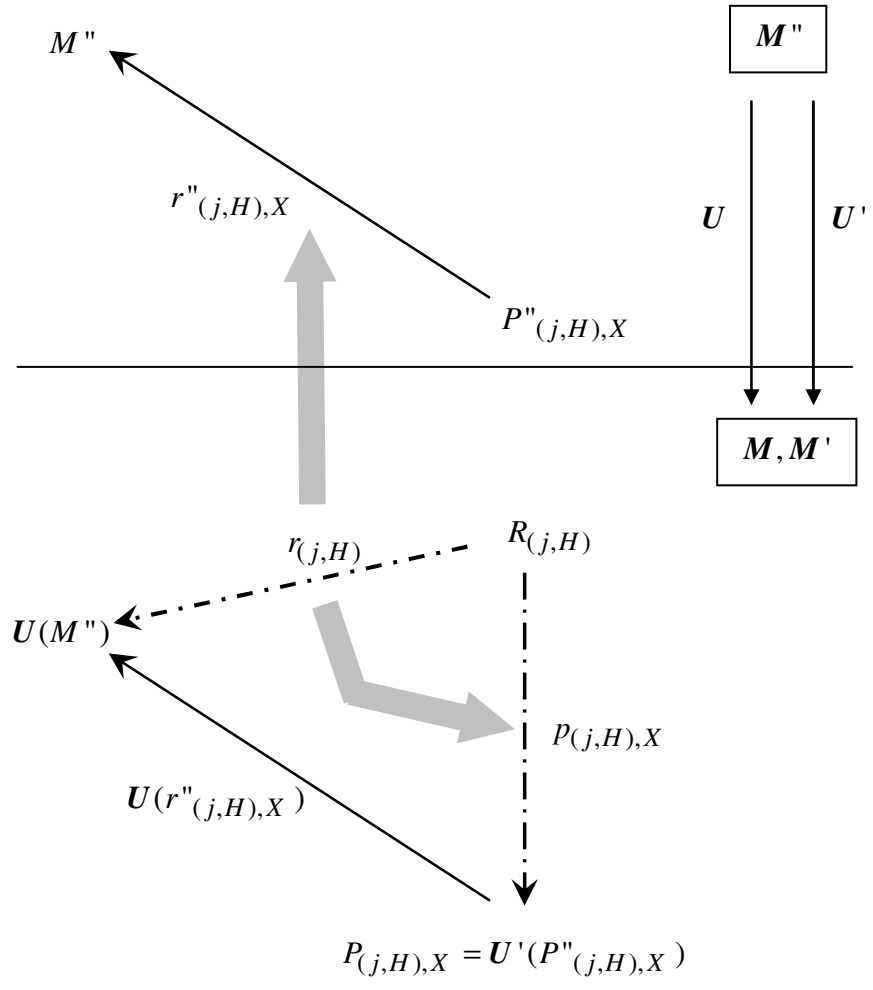


Figure 9

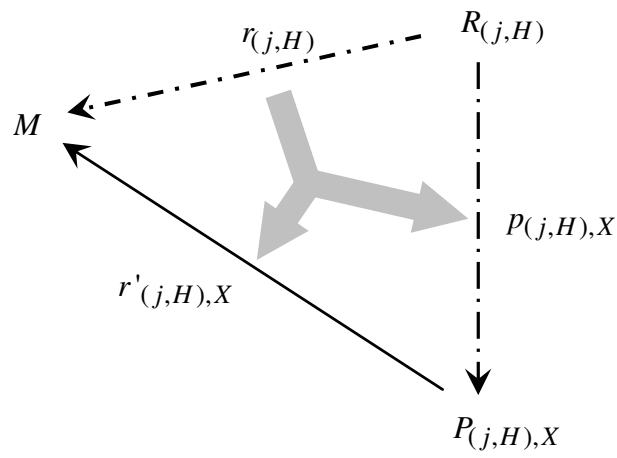


$\dashrightarrow \in \text{Fl}(M)$
 $\longrightarrow \in \text{Fl}(M'') \cup \text{Fl}(M')$

$$\begin{aligned}
 &\forall M'' \in \text{Ob}(M'') \quad \forall (j, H) \in I \quad \forall r_{(j,H)} : R_{(j,H)} \rightarrow U(M'') \in \text{Fl}(M) \\
 &\quad \exists X \in X_{(j,H)} \quad \exists r''_{(j,H),X} : P''_{(j,H),X} \rightarrow M'' \in \text{Fl}(M'') \\
 &\quad \quad U(r''_{(j,H),X}) \cdot P_{(j,H),X} = r_{(j,H)}
 \end{aligned}$$

Figure 10

\mathbf{M}, \mathbf{M}'



$\dashrightarrow \in \mathbf{Fl}(\mathbf{M})$
 $\longrightarrow \in \mathbf{Fl}(\mathbf{M}')$

$$\begin{aligned}
 &\forall M \in \text{Ob}(\mathbf{M}') = \text{Ob}(\mathbf{M}) \quad \forall (j, H) \in \mathbf{I} \quad \forall r(j, H) : R(j, H) \rightarrow M \in \mathbf{Fl}(\mathbf{M}) \\
 &\quad \exists X \in \mathbf{X}_{(j, H)} \quad \exists r'(j, H), X : P(j, H), X \rightarrow M \in \mathbf{Fl}(\mathbf{M}') \\
 &\quad \quad r'(j, H), X \cdot P(j, H), X = r(j, H)
 \end{aligned}$$

Figure 11

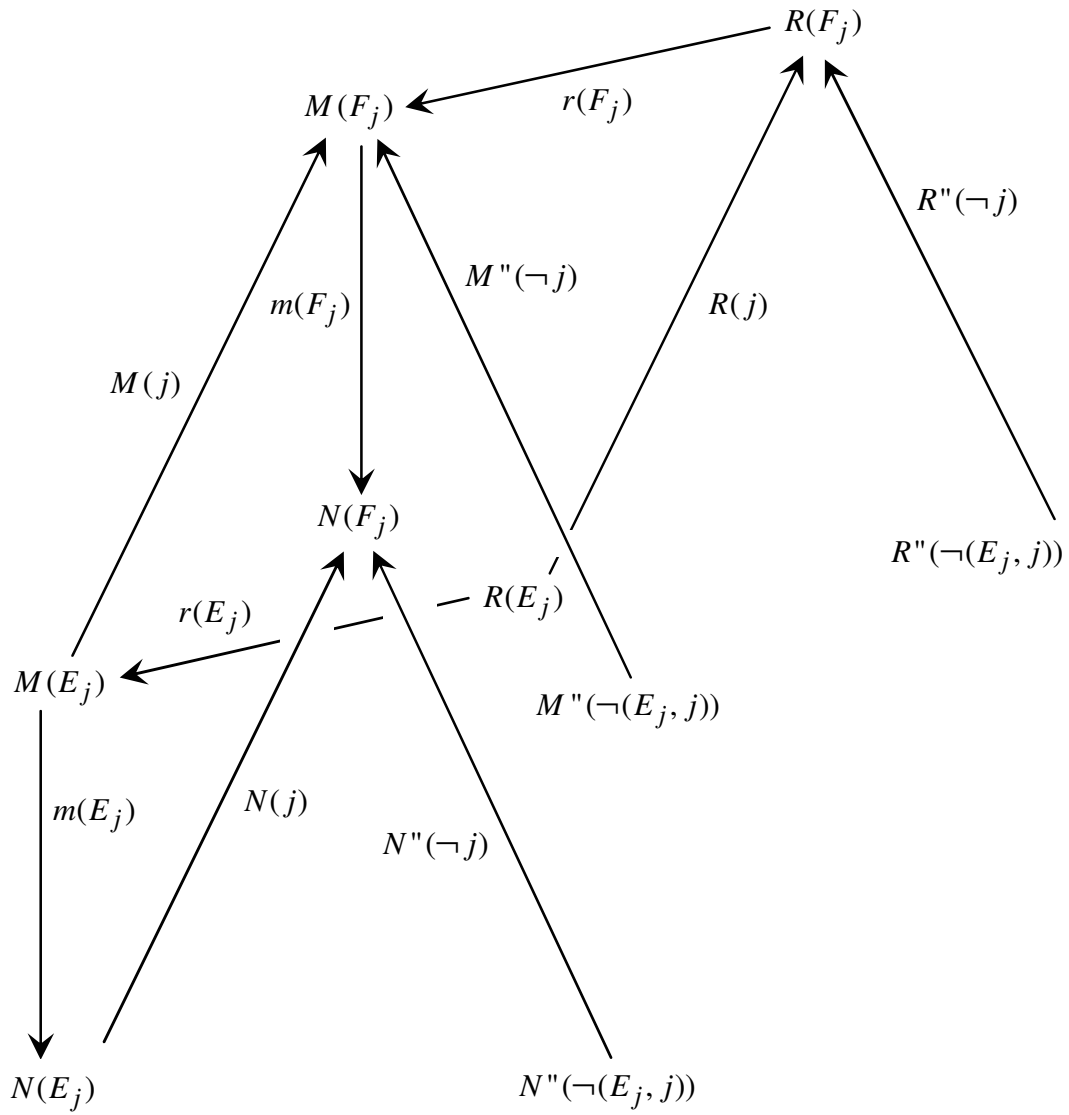


Figure 12

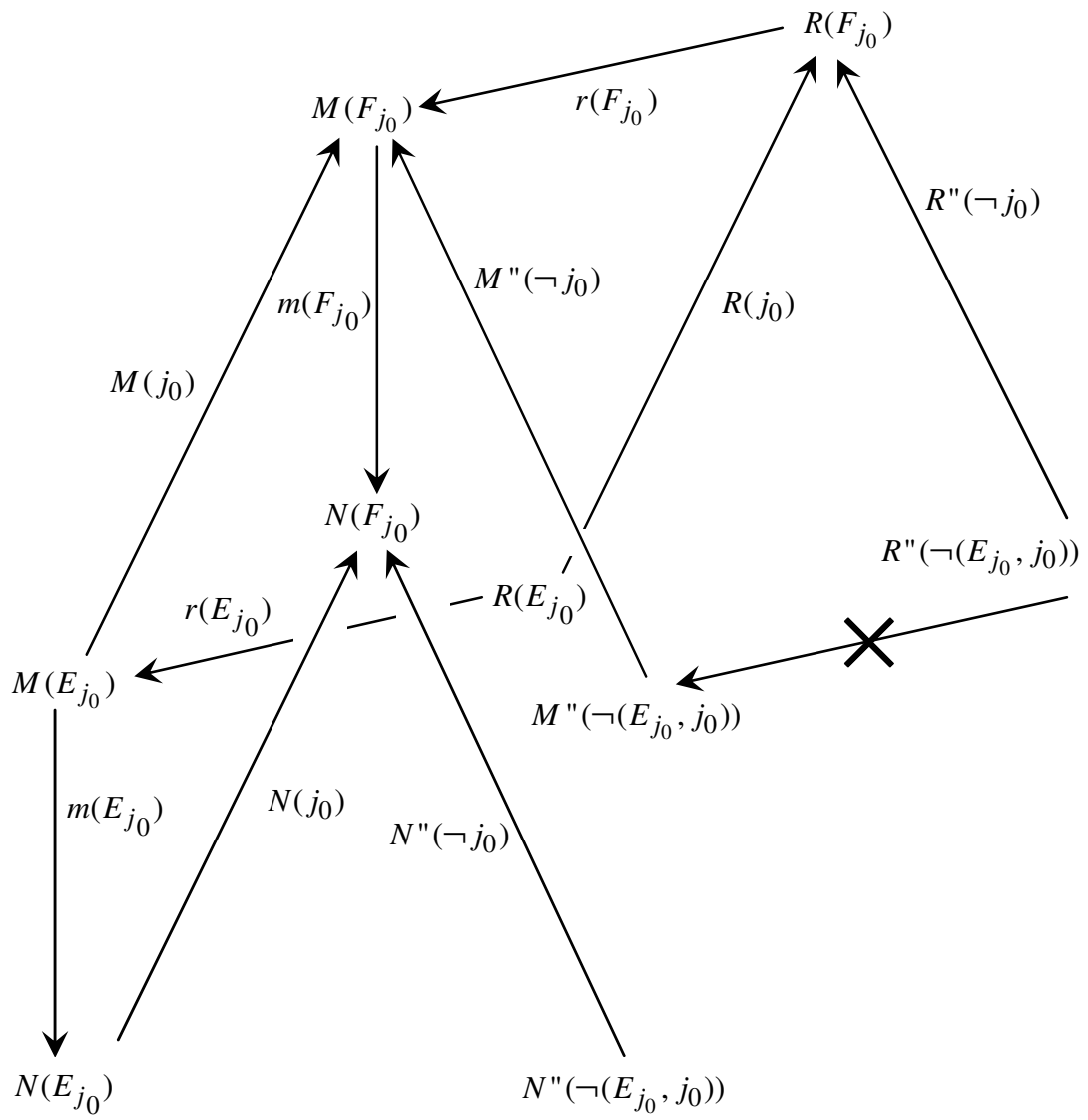


Figure 13

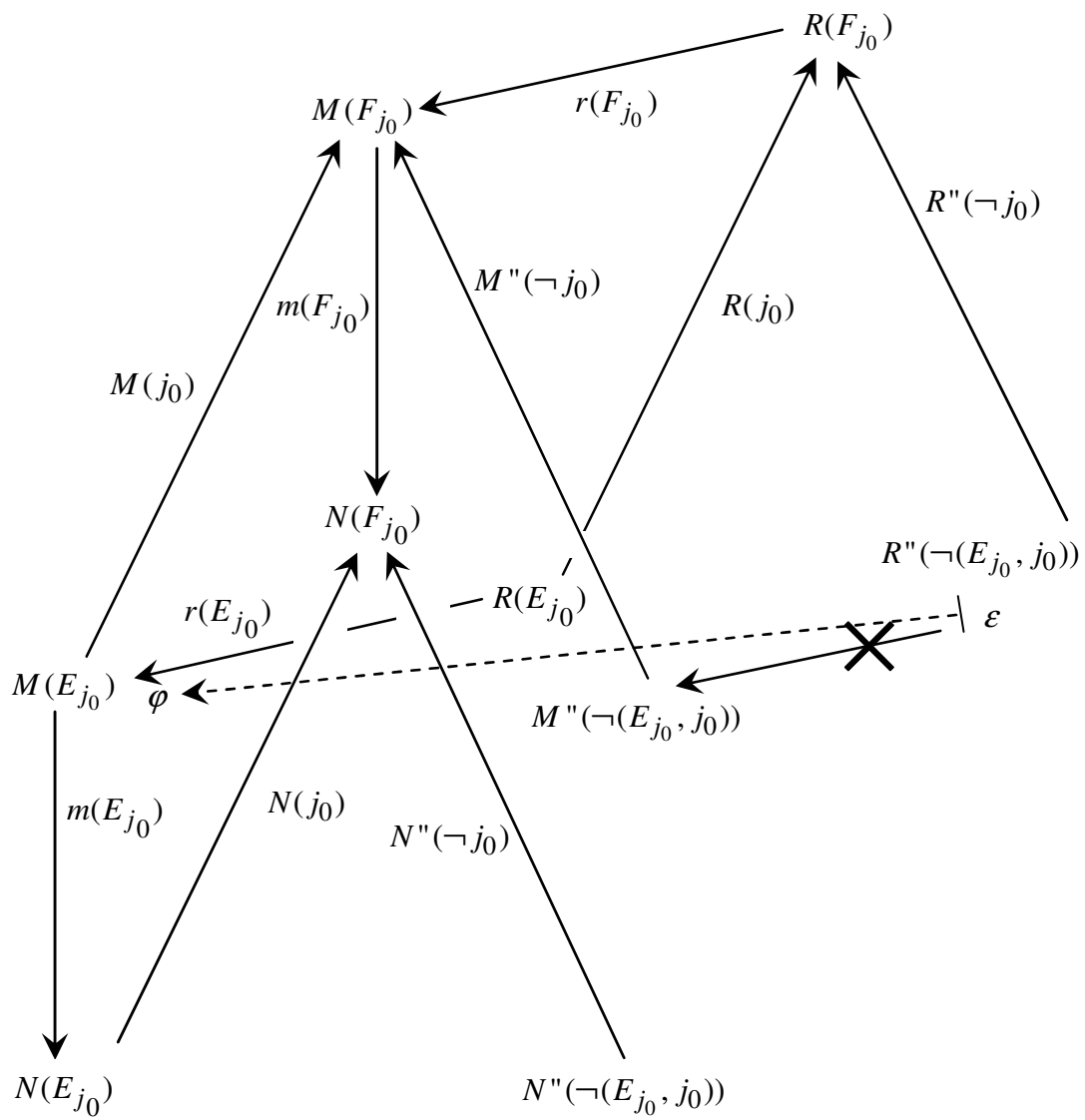


Figure 14

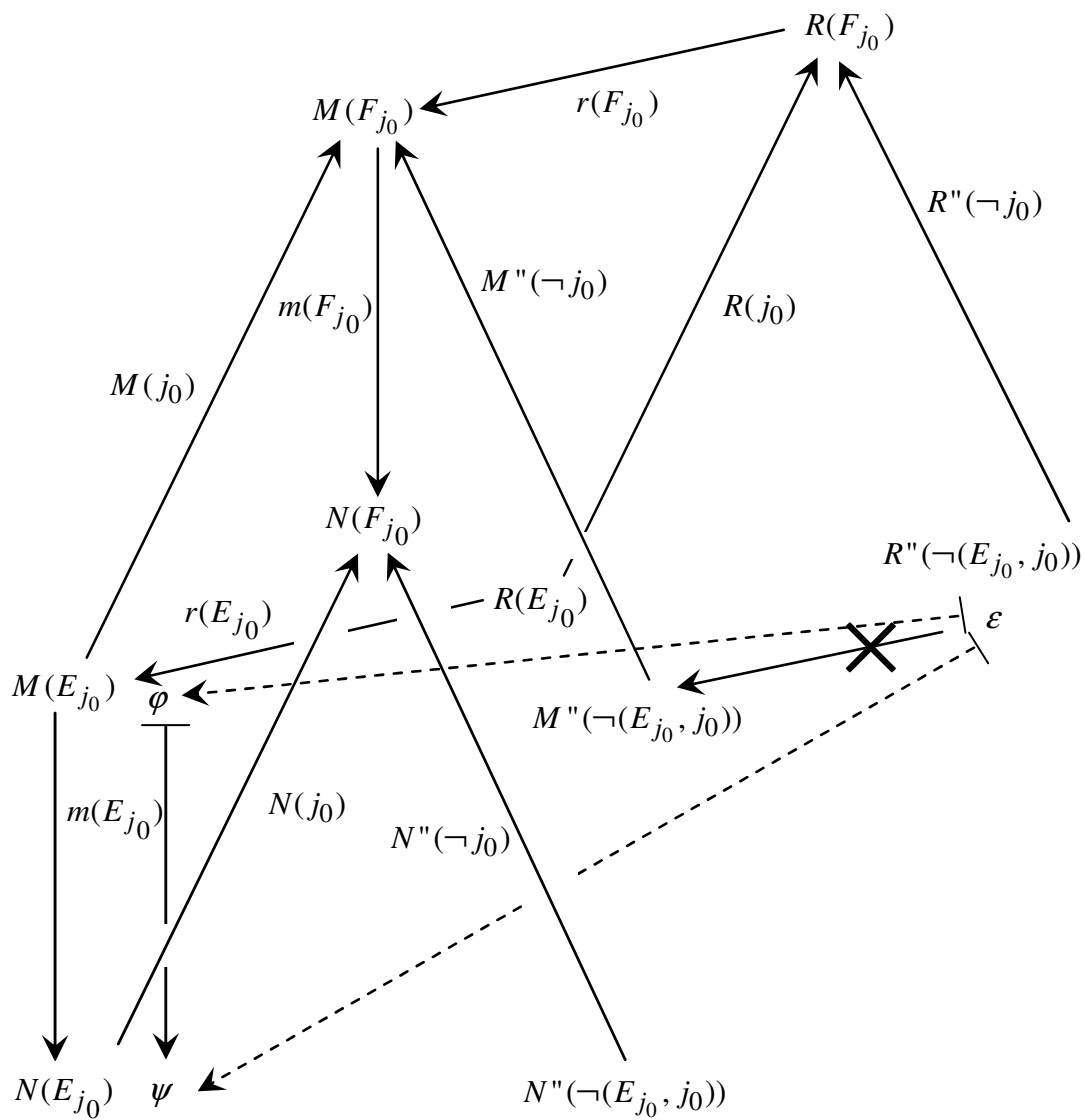


Figure 15

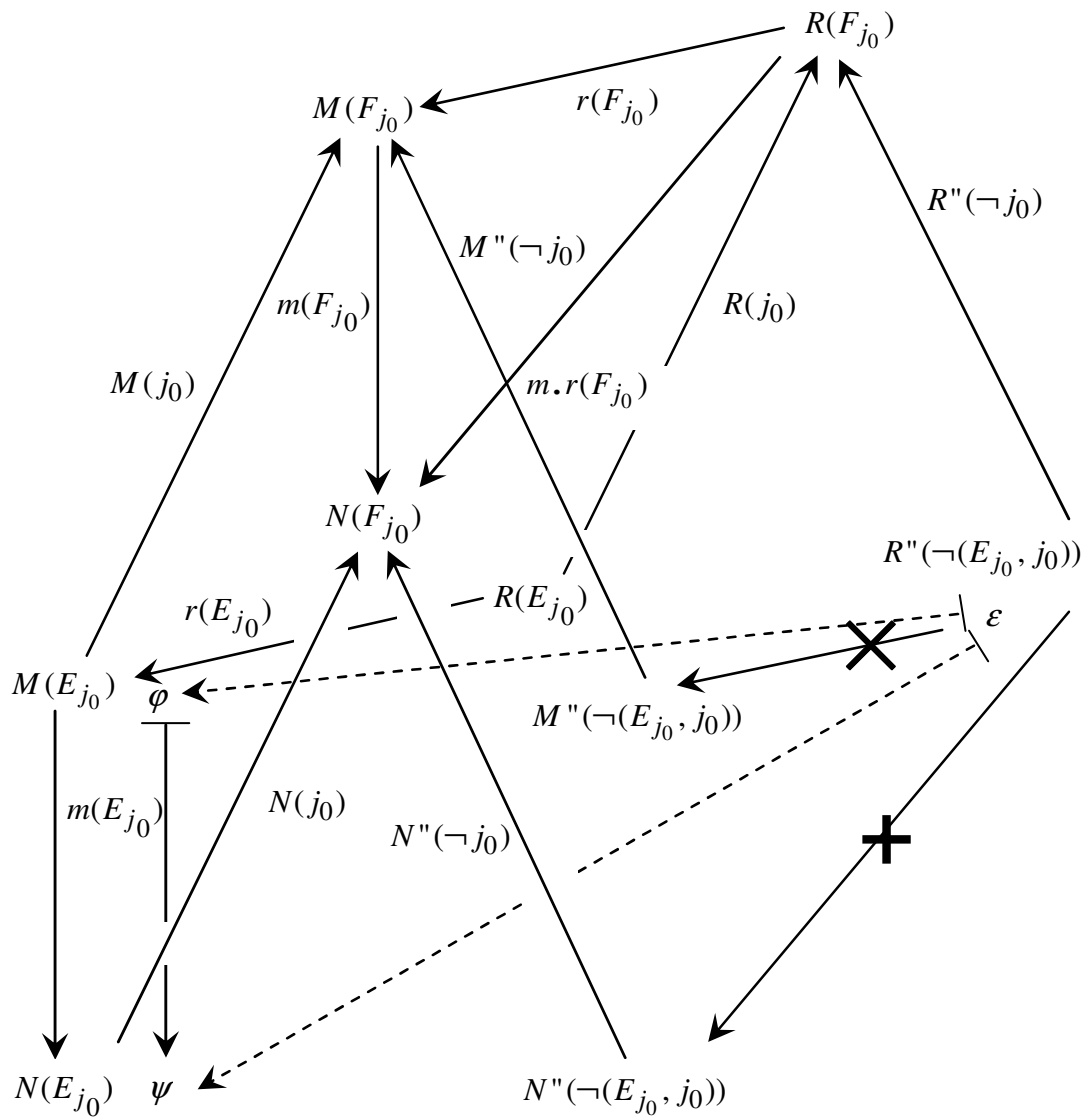


Figure 16

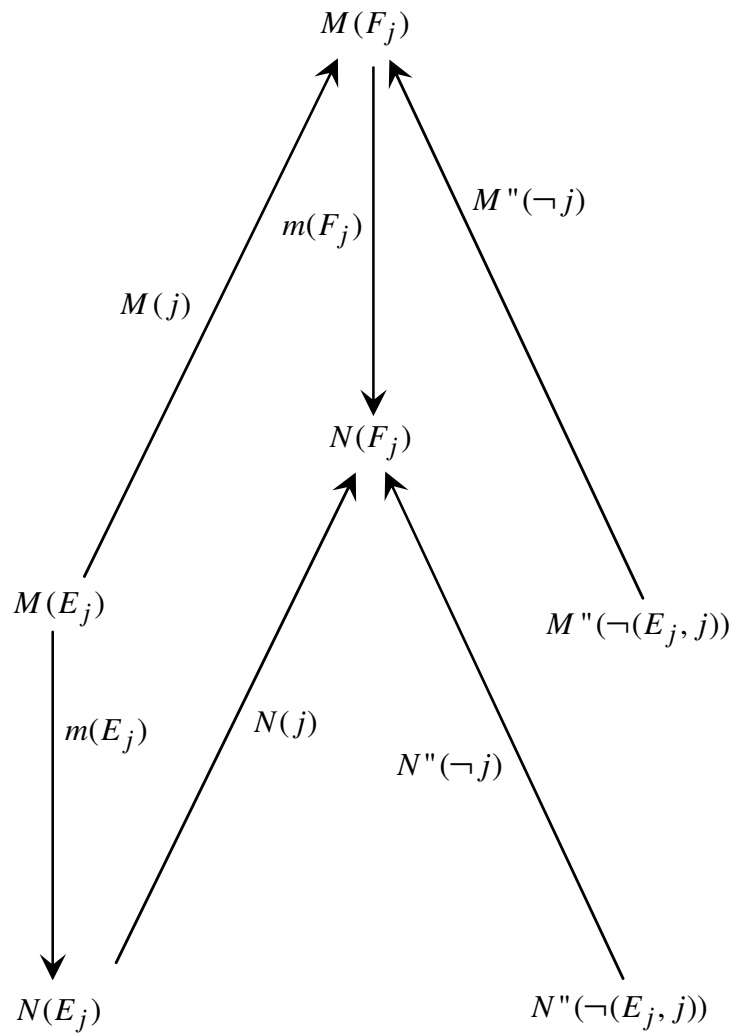


Figure 17

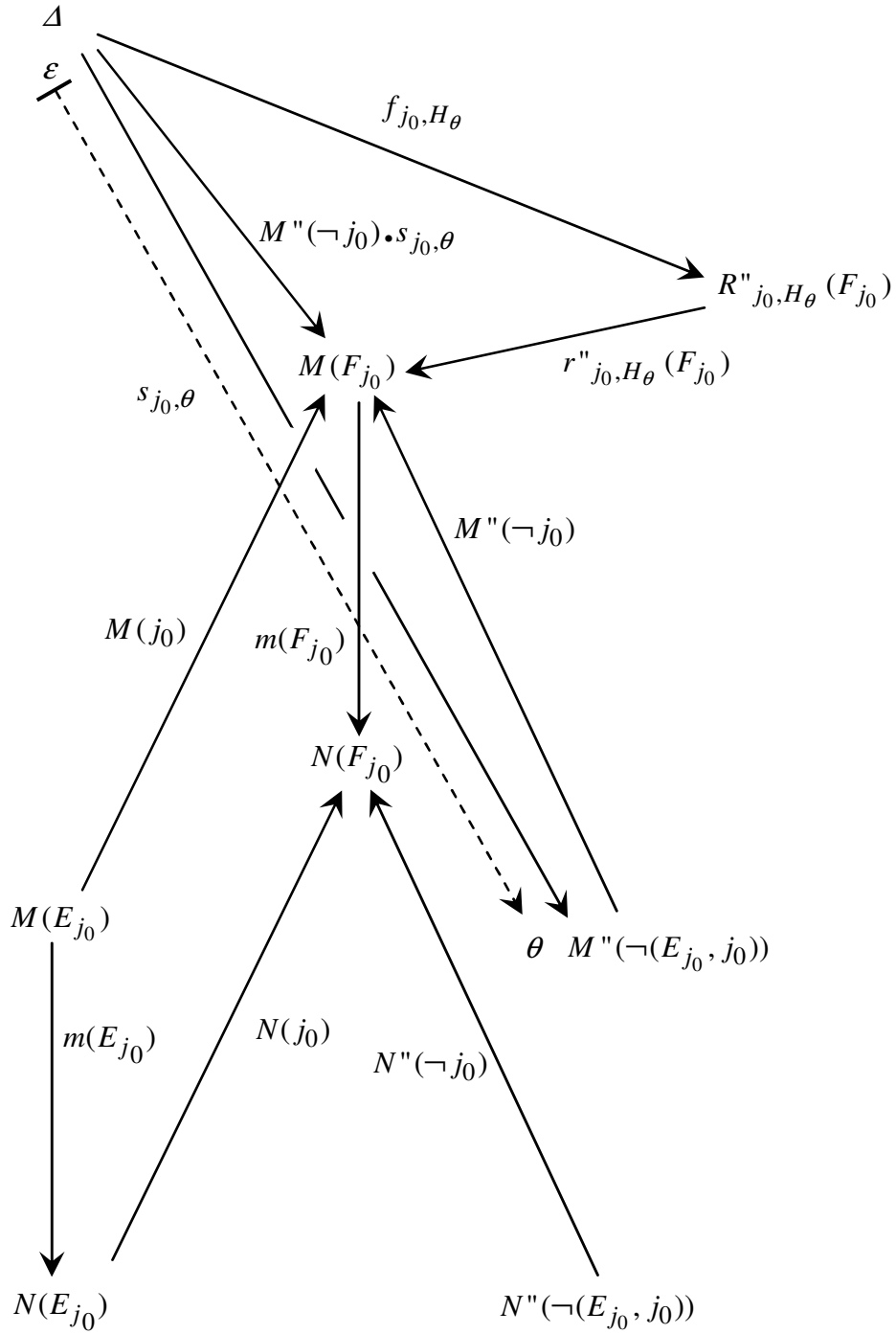


Figure 18

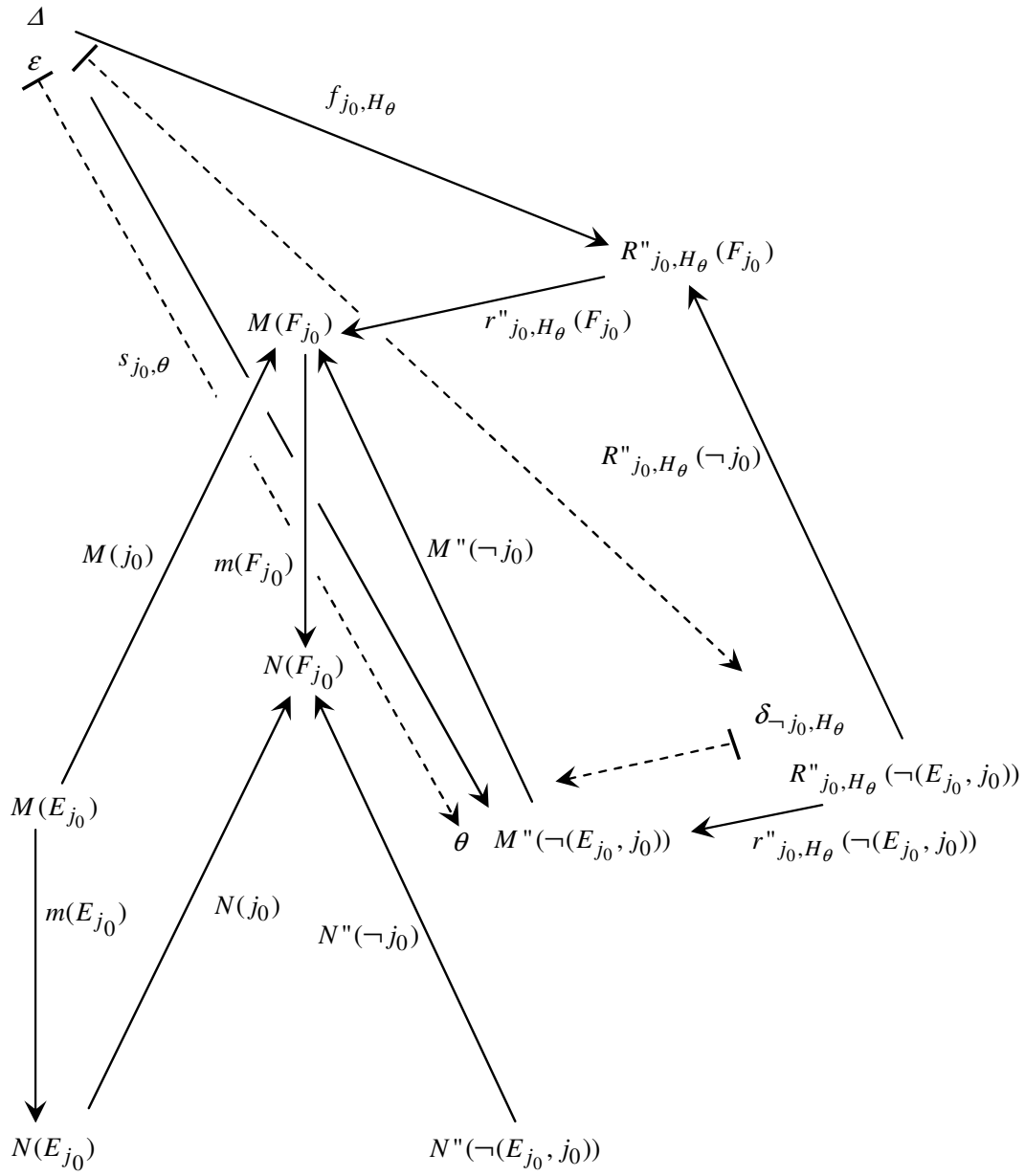


Figure 19

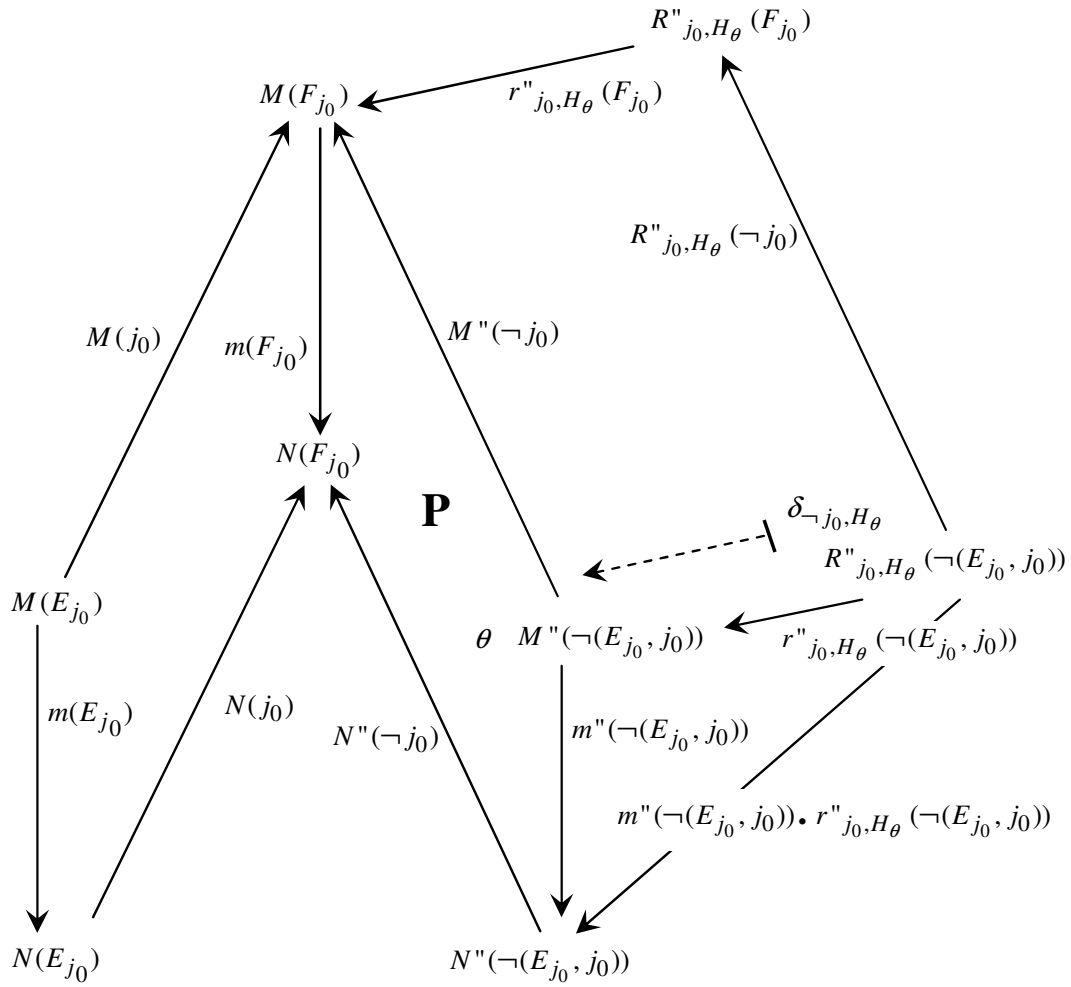
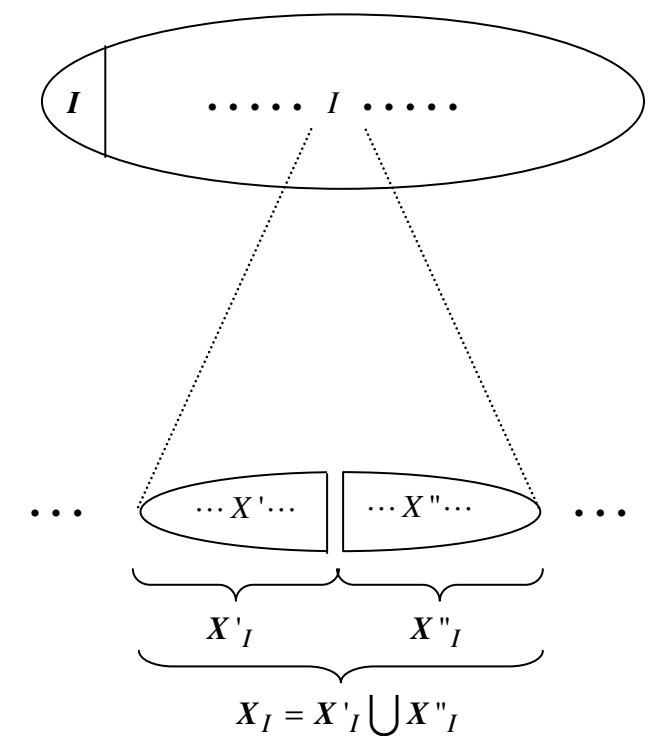
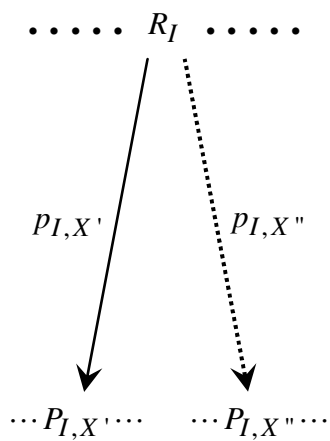


Figure 20



M



$\longrightarrow \in \text{Fl}(M')$
 $\cdots \cdots \longrightarrow \notin \text{Fl}(M')$

Figure 21

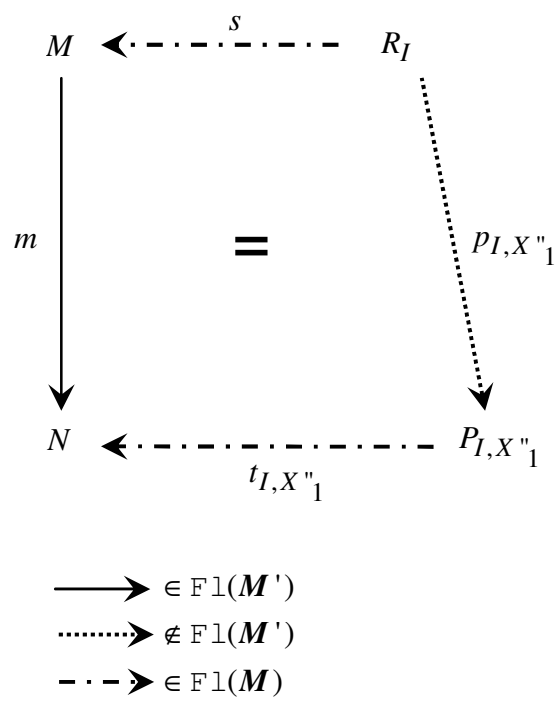


Figure 22

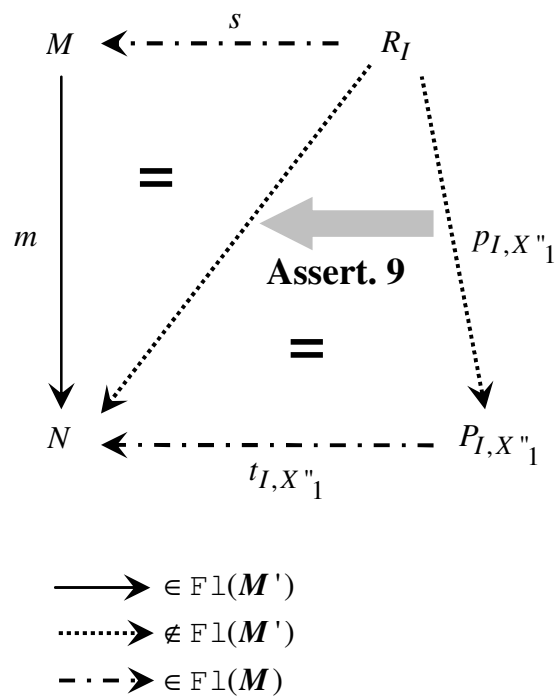


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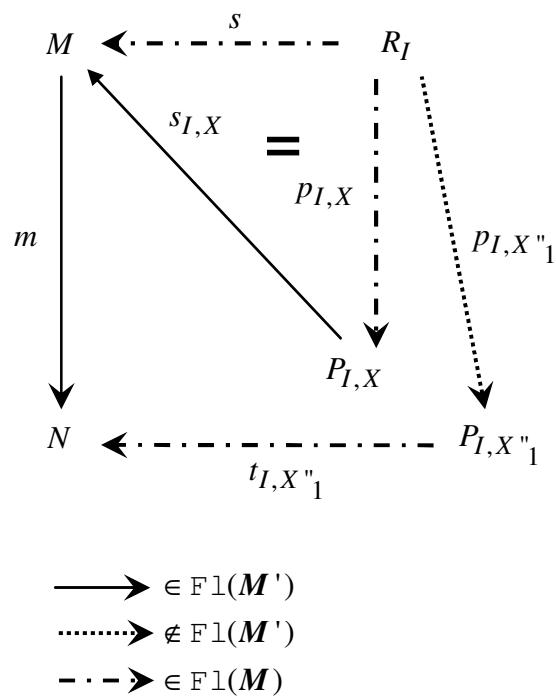
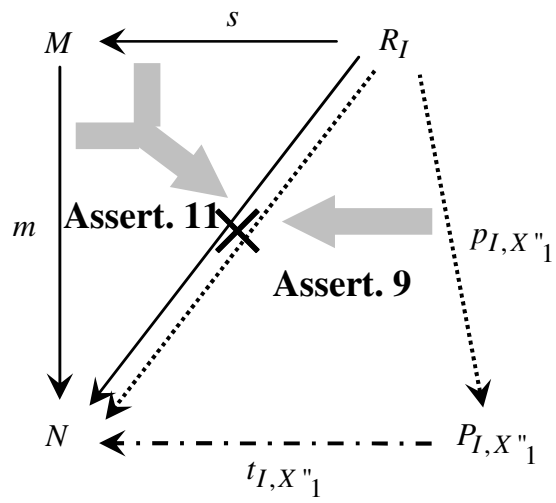
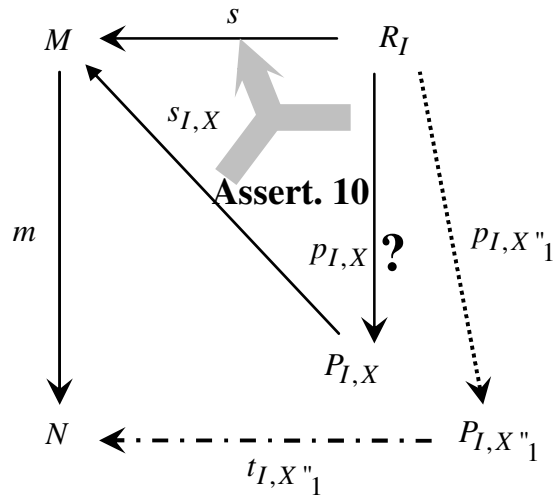
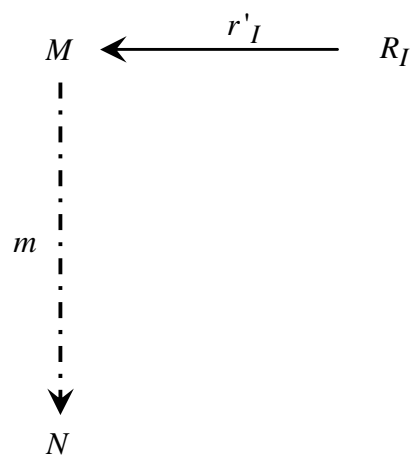


Figure 24



- $\longrightarrow \in \text{Fl}(M')$
- $\cdots\cdots\cdots \notin \text{Fl}(M')$
- $- - - \in \text{Fl}(M)$

Figure 25



$\longrightarrow \in \text{Fl}(M')$
 $\dashrightarrow \in \text{Fl}(M)$

Figure 26

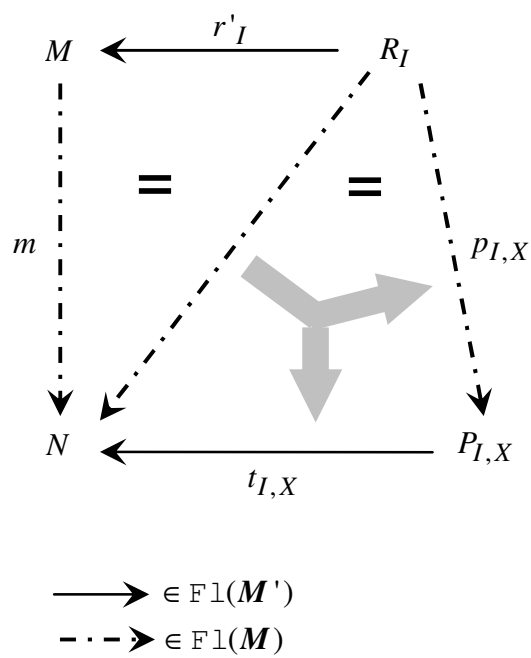


Figure 27

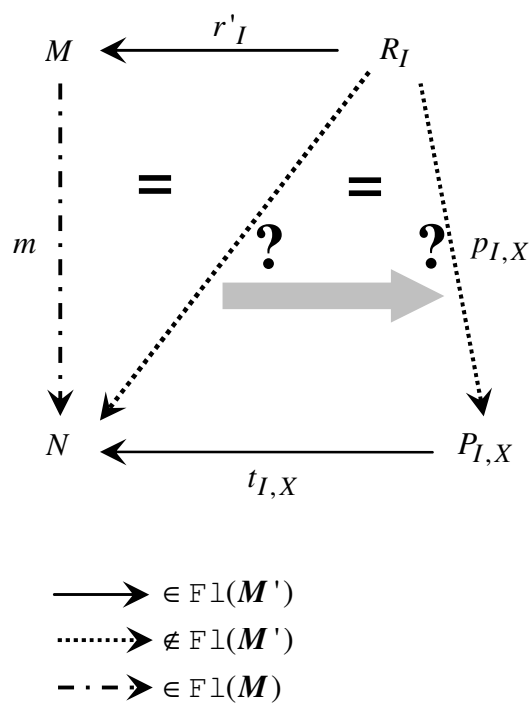


Figure 28

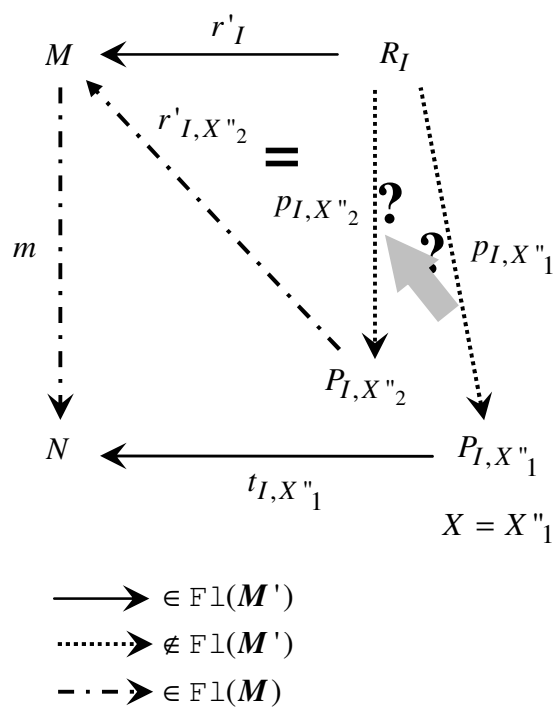


Figure 29

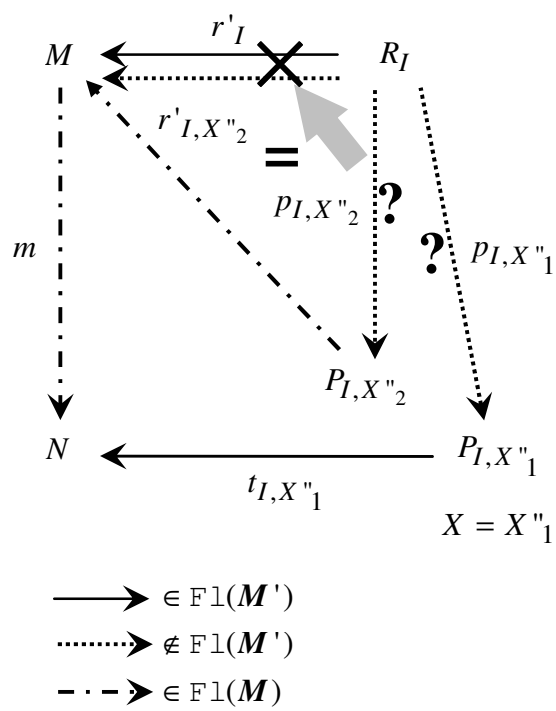


Figure 30

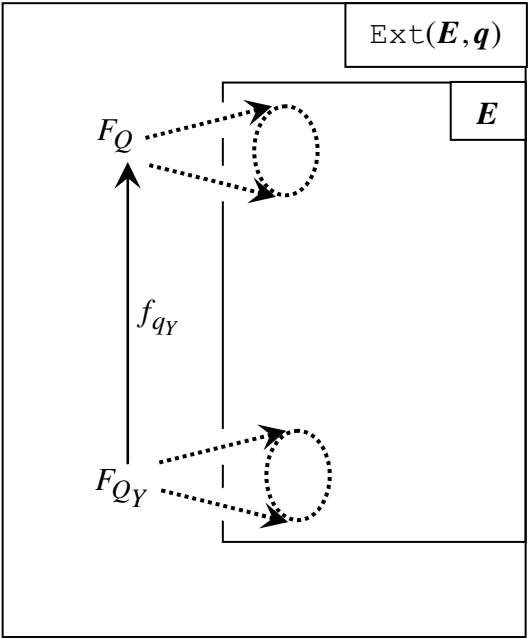


Figure 31

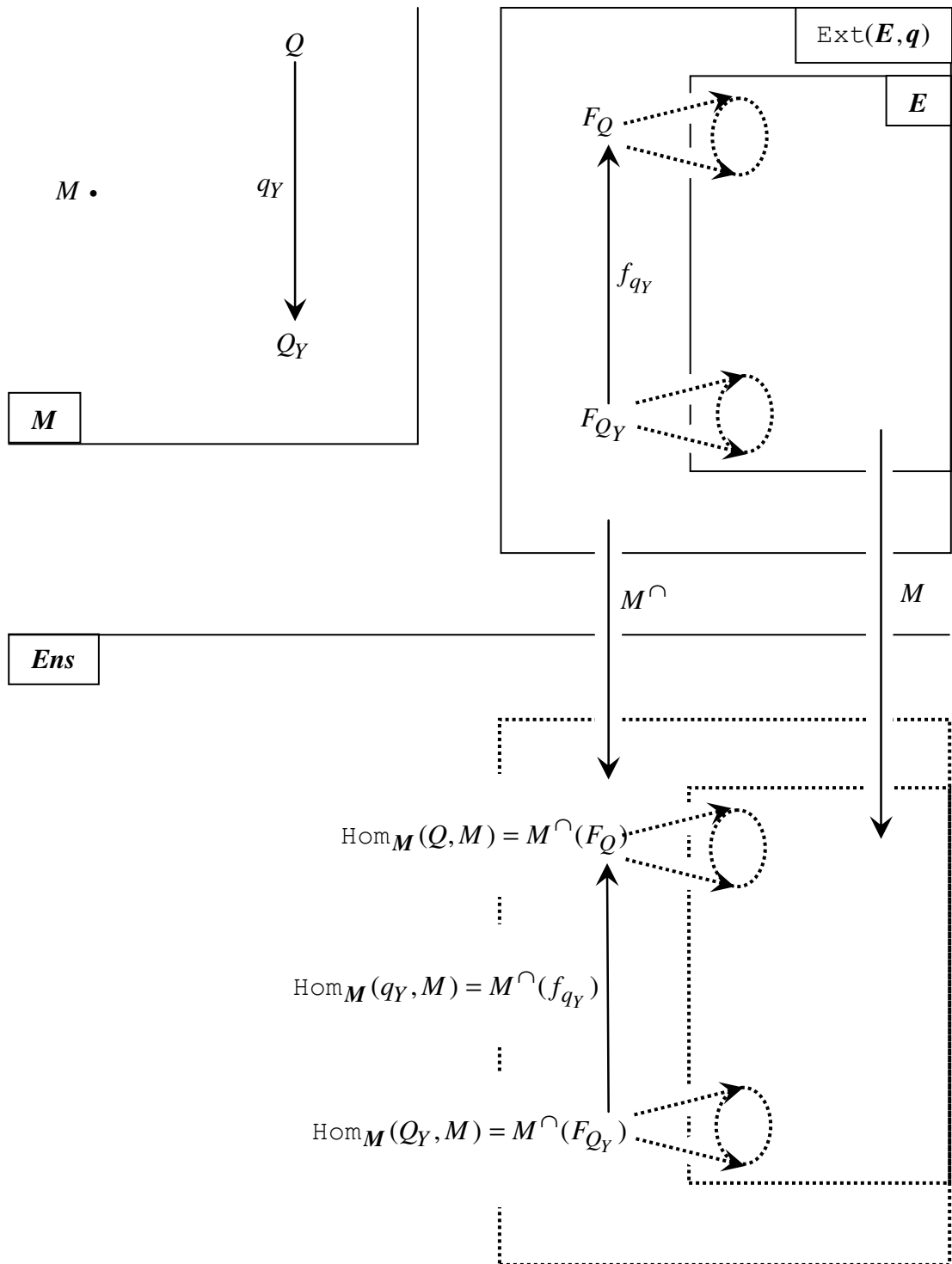


Figure 32

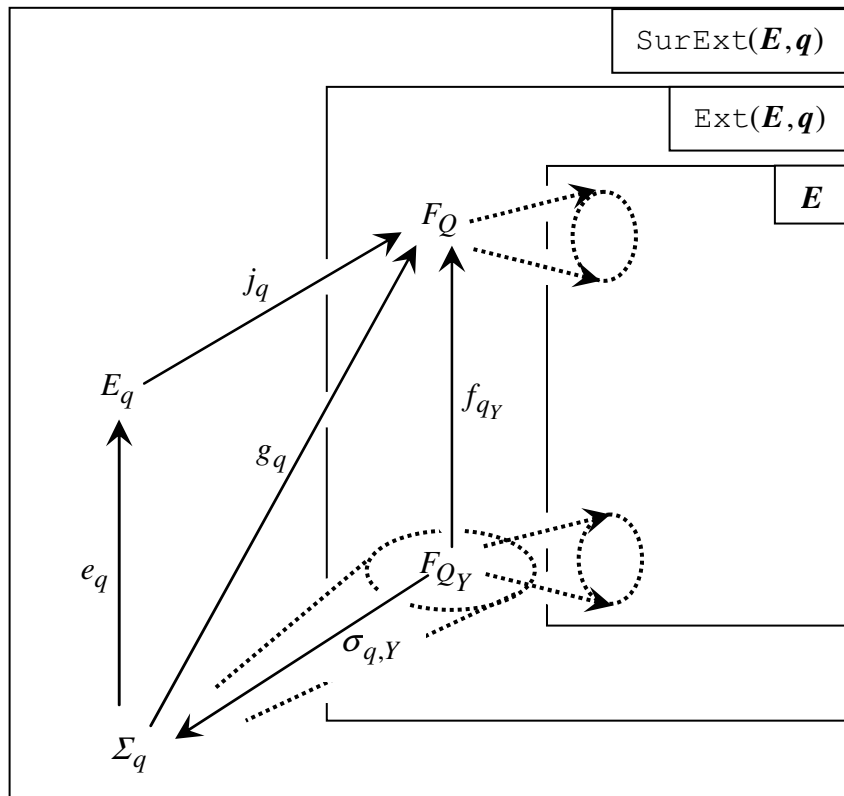


Figure 33

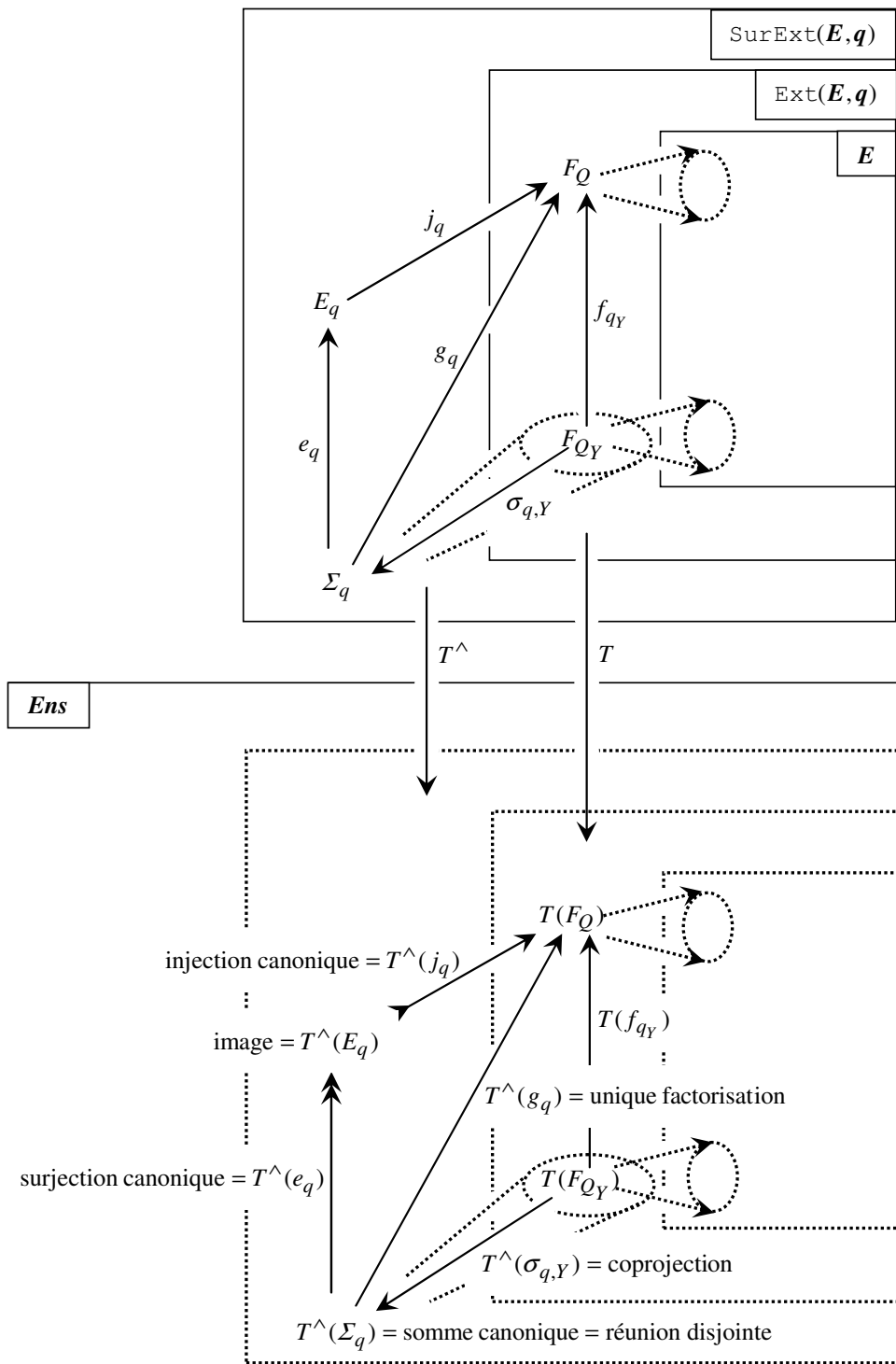


Figure 34

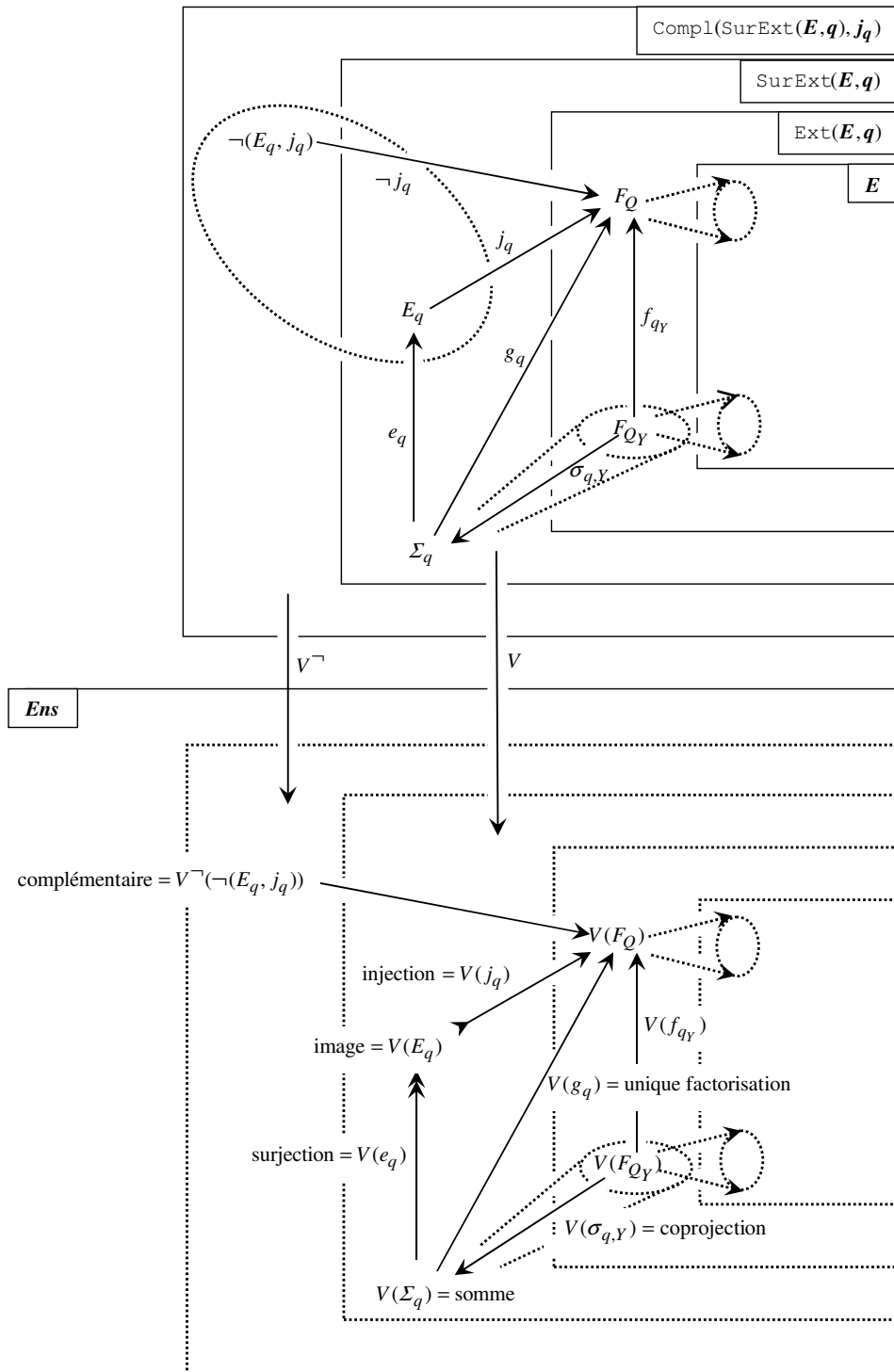


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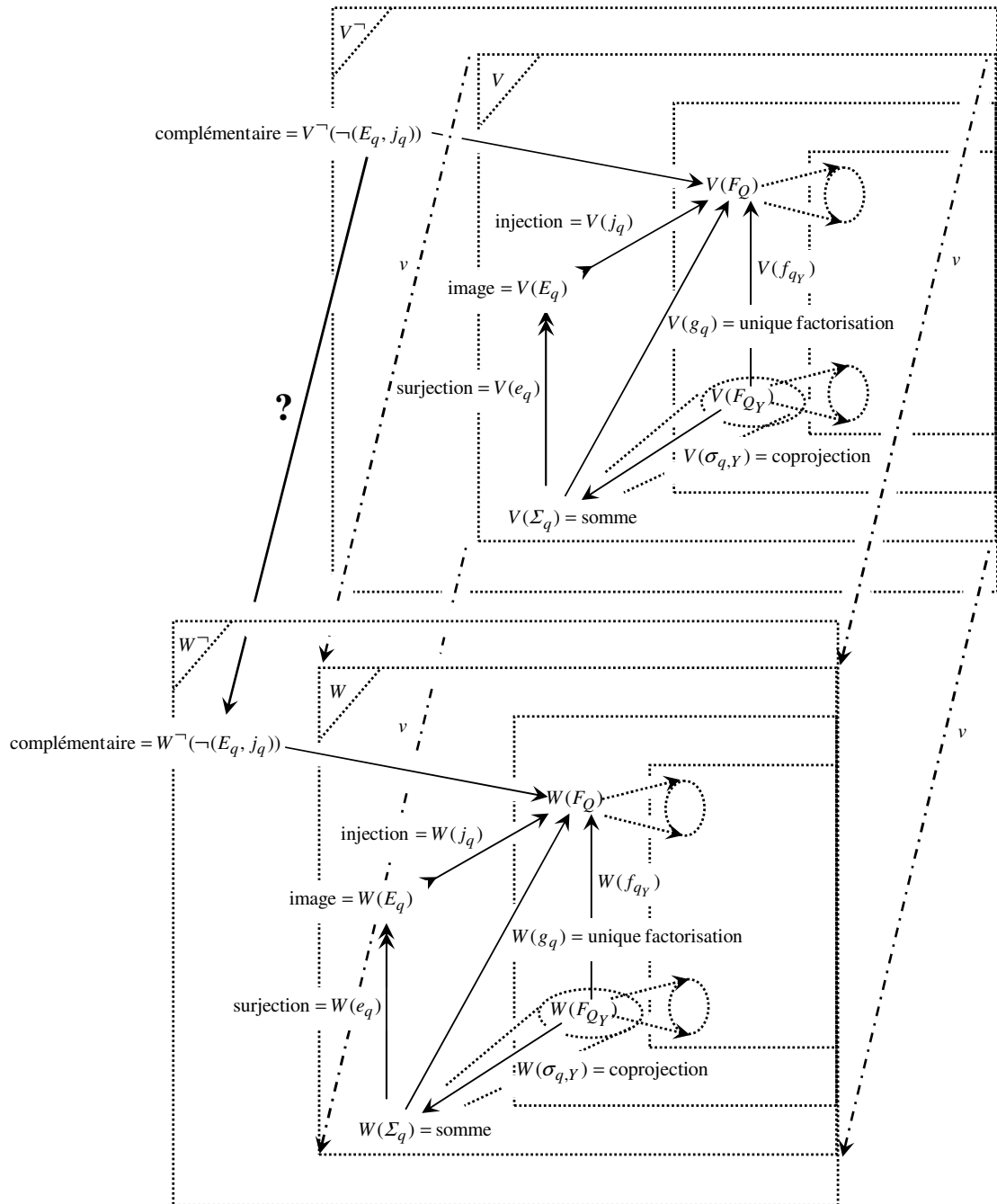


Figure 36